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CITY OF



BOSTON.

## ANNUAL REPORT

OF

# INSPECTOR OF BUILDINGS,

For the Year 1885.

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DEPARTMENT FOR THE INSPECTION OF BUILDINGS.

OFFICE OF THE INSPECTOR OF BUILDINGS,  
OLD STATE-HOUSE, January 1, 1886.

*To the Honorable the City Council of the City of Boston: —*

GENTLEMEN, — In compliance with the provisions of Section 6, Chapter 374, of the Acts of the Year 1885, I have the honor to submit the fifteenth annual report of the department, embracing its operations for the year ending December 31, 1885.

By reference to the tables annexed the large increase of work over previous years will be easily recognized; and this additional work has been performed in a thorough and satisfactory manner, by reason of the personal familiarity of the department with the system, and methods adopted, together with the readiness on its part to assume any additional burdens necessary to meet the requirements of the law and the demands of our fellow-citizens for a faithful and efficient enforcement of the laws and ordinances appertaining to building in the city of Boston.

I recognize as the most essential factor for efficient and acceptable service to the city the retention of gentlemen whose experience and qualifications are unquestioned, and who were selected as possessing natural aptness and fitness for the service required.

Under the direction of the Clerk of the Department both the corps of deputy inspectors and the clerical force have performed their work in a very efficient and satisfactory manner.

The new building law, upon which the department devoted much time, thought, and careful study, was passed by the Legislature last June, is now in full operation, and meeting with the unqualified approval of all who have business with the department. A digest of this law is now being printed, and the first edition will be ready for circulation about February 1, 1886.

Correspondence with this department and the officials of other cities relative to this law has been extensive, and where possible they have been furnished with a copy of the said acts.

Their commendations have been of high character, and the bill (in a modified form) has been adopted as one requisite to meet the wants of their cities.

In order to meet the requirements of the law for a faithful and efficient execution of the duties imposed upon the department it will be necessary to increase the force of assistant inspectors by four. I am convinced that this would be as economic as essential.

I would respectfully call your attention to my last annual report, wherein I suggested the propriety of including Charlestown and the most compact portion of South Boston in the building limits.

I also at this time wish to thank the committee of last year for the gentlemanly and considerate attention they gave to the work of the department.

### SPECIAL REPORTS.

Under the head of Special Reports are included all reports of special detailed examinations which require immediate attention.

They consist of a description of the location and material of building, its size and occupation, a statement of the names of owner, lessee, or agent, and occupants, of the cause of examination, followed by a minute report, and diagram descriptive of same.

It is the system of the department, where defect is found, to not only point out the defect but to show the remedy ; this applies to all matters of construction.

Lawyers wishing to get the advantage of the written opinions of expert mechanics seek the information these reports give. Requests for special examinations and reports are frequently made by real-estate brokers, who desire to obtain



reliable information relative to some building in which they are interested.

By insurance agents, desiring the opinion of the department as to the safety of a building and its liability to total loss in case of fire or accident.

By owners, architects, and builders, desiring the opinion of the department on some complicated form of construction. By speculators who seek for the information the department affords, of the character and quality of a building.

By tenants, who wish to feel assured of the safety of their homes. By merchants or manufacturers, wishing to enlarge their business, and desiring the opinion of the department as to the ability of their buildings to carry the additional load either of merchandise or machinery which they wish to introduce in furtherance of their business schemes. And by many others, who desire some pointed information applicable to their particular case.

### FINAL REPORTS.

Upon an application being made to erect a building, before a permit is granted the plans are submitted for approval. If approved a copy is taken and a permit granted. From the time of excavation for a foundation to the entire completion of a structure minutes are taken by the deputy inspectors of the materials used and mode of construction, and these minutes compiled form a final report. The first items are relative to location, ownership, architect, and mechanics, size and height of building, thickness of foundation, party, external, and partition walls, grade of street, piling, if on filled land, and general details of construction. These are followed by a minute and accurate description of all walls, of girders, trimmers, and headers, and general framing, of columns, posts, piers, and studding, and a description of the location and method of setting steam-boilers, engines, furnaces, and heating apparatus, and the detail pertaining thereto. After this follow the location and construction of stairways, extra facilities for escape in case of emergency, general particulars, remarks, plans, and last, but by no means least, the plumbing and sanitary arrangements, which include a description of the system of drainage and ventilation, location and construction of traps, tanks, and all other fixtures.

The object of this form of report is to procure for the city a complete transcript of buildings erected, and although requiring much time and exactness, has already proved very beneficial.

What is true of special reports is also true of final reports; therefore many calls for these reports have been made the

last year by parties who wish to take the advantage of the information these records afford.

There are two other classes of reports, namely, elevators and boilers, both of which are made in detail, and with especial reference to their value as records.

For particular information relative to them see the annual report of the inspectors having charge of this branch of the department work.

I would respectfully call your attention to the many fearful and fatal accidents that have occurred from the use of elevators and hoistways, in consequence of gross carelessness or neglect in the running or management of them.

By the returns made by the inspectors in charge of this branch of the department work I find that seventy-five (75) per cent. of elevators used in this city are run by irresponsible persons.

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## ELEVATOR REPORTS.

ELEVATOR DEPARTMENT, January 1, 1886.

*To the Inspector of Buildings:—*

DEAR SIR,— We herewith submit a report setting forth the number of elevators and other hoisting apparatus examined by us during the year ending December 31, 1885, also suggestions relative to the care and management of elevators, hoistways, trap-doors, guard-rails and other apparatus in connection with hoisting machines that come under the inspection of this department, to the end that such hoisting apparatus may be made safe by adopting and using such improvements and appliances as may be recommended by the Inspector of Buildings. The whole number of elevators and hoisting machines inspected during the year is 1,918, and may be designated as follows:—

Steam passenger elevators	.	.	.	.	.	77
Steam freight	"	.	.	.	.	656
Hydraulic passenger	"	.	.	.	.	124
Hydraulic freight	"	.	.	.	.	114
Hand elevators	.	.	.	.	.	200
Hand hoists	.	.	.	.	.	747
Total						1,918

This total represents the number of regular annual examinations made. The whole number of examinations made during the year may be obtained by referring to the docu-



ments upon which complaints are entered, where it will be seen that many reëxaminations were made. The number of reëxaminations added to the annual examinations gives the regular total. In addition to the examinations already referred to, twenty special reports were made, nearly all of which relate to accidents whereby persons were killed or injured by elevators or hoistways. We have also visited premises to advise with parties contemplating the construction, repair, or alteration of elevators and hoistways, as well as to explain to some the intention of the law as it relates to hatch covers and guard-rails, especially the latter, which some erroneously believe are to be kept in position at night only. The inspection of elevators and hoistways began in August, 1882. Since that time every elevator and hoistway in the city, of which we have any knowledge, has been inspected at least once in each year, many of them several times. By reference to the reports of 1882, as compared with those of 1885, it will be seen that a marked change and improvement have taken place in the condition of elevators and hoistways. The authority of this department, under the law, has been almost invariably recognized and its requirements cheerfully conformed to. Many new elevators have taken the place of old ones condemned by this department, and in addition many new ones are added yearly, all of which are supplied with the modern safety appliances and improvements. The guarding of hatches is a question of much importance. To establish a uniform system, would in many cases be an inconvenience and a hardship. This is so by reason of the various employments, the sizes of packages handled, and the location of elevators or hoistways. But there is no elevator or hoistway at which some kind of a safeguard could not be used. Hatch covers now in general use are of four kinds, automatic lifting (carried on cross head of car), automatic hinged covers, automatic horizontal sliding, and the ordinary hinged cover to be opened and closed by hand. Of these various kinds of covers something might be said in favor of each, but on the whole we are of the opinion that the common hand cover is the safest, for the reason that it never interferes with the free operation of the car; while the automatic covers, which are operated by mechanical contrivances, have many parts which are subject to wear and derangement, therefore they are liable to interfere with the operation of the car; and such an occurrence at any time would be dangerous. The importance of automatic stops on hoisting machines has been fully recognized by parties using them, and there are few elevators in the city which are not thus provided. The same may be said of dog-stops

on the shipper rope. There is a patent device called elevator-stop, which is attached to many cars in this city. It is designed to grip the shipper rope and stop the car at any floor landing. We have observed its working, and thus far are of opinion that it is a convenient and economical arrangement. Almost every elevator in the city has a safety device of some kind. Since the inspection of elevators began many improvements have been made, and at present they are nearly all in good order. In the discharge of our duty we seldom meet with obstruction or delays, except necessary ones, such as the loading or unloading of goods, the carrying of passengers, or awaiting the convenience of the engineer or janitor. The expedition of inspection has been somewhat retarded by foot travel, especially in the districts outside of the business centre, where journeys are now made on foot, which heretofore were made by horse car. In conclusion, I would recommend that all elevators be operated by an experienced person of not less than eighteen years of age.

On Friday, January 2, 1885, at about 10.30 A.M., Wm. L. Keough, a carpenter, stood on top of the guard gate at the sidewalk entrance of building 34-36 Hamilton street and Wendell street, to raise the vertical sliding door; after raising it he fell back into the well, a distance of about eleven feet. He was removed to the City Hospital.

In March, 1885, Henry Von Emden was caught between the floor of the passenger elevator and the frame of the transom window of building 40-46 Avon street. The frame broke, allowing him to fall a distance of about fifteen feet. His leg was badly fractured; he was removed to the City Hospital.

An accident occurred on premises 35 Hawley street, corner Hawley place, in March, 1885, to John Oeffinger. He came to the hatch or scuttle in the sidewalk, called to the fireman below, and expressed a desire to go down. The fireman told him there was no admittance. A few minutes later he fell to the brick floor of the fire-room, a distance of fifteen feet. The fall rendered him insensible; he was removed to the City Hospital, where he died the next morning.

J. E. Barnes, 48 years of age, went to Pier No. 4, rear of 55-63 Water street, to pump the waste oil from the elevator well; ten minutes later he was found dead under the platform.

There is room enough for one to lie down between the bottom of the car and bottom of the well.

The elevator is an upright hydraulic plunger, and operates from the first to the second floors only.

In May, 1885, Mary Mahoney, an employé upon premises 66-68 Utica street and 237 South street, while engaged in hoisting bales from the lower floor lost her balance and fell through the hatch in the second floor to first floor, a distance of about twelve feet. One arm was broken. She was removed to the City Hospital.

In June, 1885, Thomas J. Thurston stood upon the automatic hatch covers at first floor of building 55-57-59 High street, and 237-241 Purchase street. Believing he was on the car he pulled the shipper line to ascend. The car, which was immediately below the hatch covers, threw them open so suddenly that he became confused, and was crushed between the hatch covers and the machinery by which they are operated. He was taken to the Massachusetts Hospital, where he expired.

An accident occurred at premises, Market street, Brighton, August 6, 1885, to Thomas Rowan : —

He was found in a dying condition, his head and part of his body hanging over the lower rail which guards the elevator well.

Upon examination it was found that his skull and jaw-bones were broken.

The car was ascending when he was killed.

The theory is that Rowan undertook to get on the car by passing between the rails, which are about 24 inches apart; his head was caught between the platform of the car and the top guard-rail, causing almost instant death.

September, 1885; premises, East Newton street, corner James street; accident to Alexander McClusky : —

The freight elevator was descending; reaching the third floor it landed on a truck which had been left carelessly protruding over the hatch; the drum continued to unwind the hoisting ropes, but was soon discovered by an employé, who stopped the machine.

At this juncture McClusky stepped upon the platform and extricated the truck, whereupon the car fell a distance of about 4 feet, striking McClusky on the head, throwing him from the car to the floor beneath, a distance of about 9 feet. He was severely bruised, and taken to the City Hospital.

An accident occurred to Frank Wilson in September, 1885, on premises 233 Boylston street : —

In absence of the elevator boy Wilson acted as substitute.

About 5.15 P.M. he took a gentleman to the third floor; the gentleman, being near-sighted, requested Wilson to unlock his door; meanwhile the elevator, which had not been properly shut off, continued to ascend.

When Wilson returned to take the car he fell through the hoistway to the first floor, a distance of about 27 feet. He was removed to the City Hospital.

Accident to John Purcell, October 9, 1885, at 72 School street, corner Tremont street:—

He had ascended on the elevator car, and left it (while in motion) at the eighth floor, and came in contact with a scaffold which sent him back, when he fell to the level of the first floor, striking on empty lime casks. No bones were broken. He was taken to the City Hospital.

On the 26th of October, about 10 o'clock A.M., James Higgins, while attempting to get on an ascending elevator in premises 171-77 Friend street, Canal street 80-98, was caught between the platform of the car and the guard-rail.

In this position he was jammed until the rail broke, when he fell from the fifth floor to the bottom of the hoistway, a distance of about 55 feet. In falling he struck a hatch cover.

Upon examination his leg, arm, and shoulder were found to be broken.

He was taken to the City Hospital.

Edward Barnett, while ascending an elevator in premises, Franklin street, Ward 10, had his neck caught between the platform of the car and a vertical sliding door at the third floor. The car continued to ascend, having dragged his head from the jamb, and carried him to the fourth floor, where the elevator stops.

He was removed to the City Hospital. Upon examination his neck was found to be broken.

He died in a few moments.

Accident to John Wall, November, 1885; premises 292 Franklin street, corner Broad street:—

Wall was riding on the elevator; he stood with one foot projecting over the platform when the car reached the second floor his foot was jammed between the bottom of the hatch and the platform. He was taken to the Massachusetts General Hospital, and some of the toes were amputated.

Accident to Francis Garraughty, November, 1885, on premises, Troy street, Ward 16:—

While the car was ascending he stood with face toward the centre, and projected his foot backward over the car. When the car reached the second floor his foot was jammed between the platform and a piece of thin plank which formed part of the landing; the plank gave way, thus saving his foot from serious injuries. He was taken to the City Hospital.

Accident to Cornelius Shannahan, November, 1885, at premises on West street, Ward 10:—

He was seen near the elevator, and immediately after was found at the bottom of the hoistway. He was removed to City Hospital, where he died shortly after his arrival; his skull was fractured. It is thought that he took the elevator to ascend and fell from the platform when between the first and second floors.

Accident to Patrick Brown, December 16, 1885, at premises 29-31 Bedford street:—

While passing premises he stopped at the elevator shaft, and, leaning his arms upon the guard gate, looked down to the bottom of the well. While in this position the car descended upon him, catching the head between the top of the guard gate and the bottom of the car. He was slightly injured and removed to the City Hospital.

Accident to Albert Ballou, December 16, 1885, at 108 Arch street:—

Ballou was discovered at the bottom of the elevator shaft, and removed to the City Hospital. His case not considered dangerous. Ballou was a fireman on the premises; his way to the fire-room was through a small hatch in the regular hatch cover, thence down a ladder to basement. It appears that the hatch covers were not closed, and it was thought that Ballou unconsciously stepped off.

Accident to Wm. Horden:—

On the evening of December 29, 1885, he fell through the hoistway from the second floor to the pavement of the driveway, a distance of eighteen feet six inches. He was removed to the City Hospital, seriously injured. It has been the custom to locate the elevator at the second floor at night. The afternoon preceding the accident an occupant of the building moved out, and had occasion to use the elevator later than usual, and, when done, it is thought sent the elevator to the top floor. Horden took it for granted that the car was at the second floor, and stepped off.

BOILER REPORTS.

BOILER DEPARTMENT, January 1, 1886.

*To the Inspector of Buildings: —*

DEAR SIR, — In compliance with the provisions of Chapter 374, Section 6, of the Acts of the year 1885, we herewith submit a report of steam-boilers examined by this department in the City of Boston for the year ending August 1, 1885, with their conditions, number of horse-power, whether any accident has occurred during the past year, and facts as to cause of same, also statement of boilers operated in violation of Chapter 102, Sections 51, 52, and 53 of the Acts of the Year 1882.

Number of boilers reported by this department as examined . . . . .	1,381
Number of boilers set under permit of this department from last report to August 1, 1885 . . .	257
Total number of boilers located in the City of Boston . . . . .	1,638
Aggregate horse-power of all boilers . . . . .	56,080
Average horse-power to each boiler . . . . .	34+

NUMBER OF BOILERS IN THE SEVERAL WARDS IN THE CITY OF BOSTON.

Ward.	Boilers.	Ward.	Boilers.
1 . . . . .	55	15 . . . . .	54
2 . . . . .	58	16 . . . . .	21
3 . . . . .	13	17 . . . . .	59
4 . . . . .	41	18 . . . . .	45
5 . . . . .	35	19 . . . . .	56
6 . . . . .	128	20 . . . . .	68
7 . . . . .	162	21 . . . . .	46
8 . . . . .	24	22 . . . . .	49
9 . . . . .	9	23 . . . . .	33
10 . . . . .	155	24 . . . . .	51
11 . . . . .	103	25 . . . . .	36
12 . . . . .	147		
13 . . . . .	73		
14 . . . . .	117	Total . . . . .	1,638



STATEMENT AND REPORT OF BOILERS ESPECIALLY EXAMINED  
BY ORDER OF THE INSPECTOR OF BUILDINGS TO AUGUST  
1, 1885.

Total number especially examined	.	.	.	825
Form and description to wit:—				
Horizontal tubular	.	.	.	511
Upright tubular	.	.	.	159
Locomotive	.	.	.	47
Sectional	.	.	.	101
Flue	.	.	.	5
Cylinder	.	.	.	2
				<hr/> 825
Boilers conforming to statute law	.	.	.	468
Boilers not conforming to statute law	.	.	.	270
Condition not ascertainable	.	.	.	87
Total horse-power of 825 boilers examined	.	.	.	37,116
Average horse-power to each boiler examined	.	.	.	44
Number of boilers repaired	.	.	.	174
Number of accidents reported	.	.	.	none
Charlestown Iron Co.	.	.	.	1
United States Government	.	.	.	1
Webb & Watson	.	.	.	1
J. Haslem	.	.	.	1
Wilbraham Brothers	.	.	.	1
James Leffell & Co.	.	.	.	1
R. W. Pratt & Co.	.	.	.	3
Connington & Simms	.	.	.	1
Wilson & Co.	.	.	.	1
Braman, Dow, & Co.	.	.	.	2
National Boiler Co.	.	.	.	1
Daniel Sullivan	.	.	.	1
Chamberlain	.	.	.	1
Miller	.	.	.	1
Brown	.	.	.	1
Morrill, Whittemore, & Co.	.	.	.	1
Pottstown Iron Co.	.	.	.	1
Wm. Allen & Sons	.	.	.	1
Wm. Hanaford	.	.	.	2
Campbell & Son	.	.	.	1
A. J. Perry	.	.	.	1
Edw. Whiteley	.	.	.	1
Smith & Adams	.	.	.	1

Le Bosquet Bros. . . . .	2
Porter Manufacturing Co. . . . .	1
J. H. Mills . . . . .	2
Mason . . . . .	1
Palmer . . . . .	1
Hoadley . . . . .	1
Waterhouse . . . . .	1
Maynard Iron Works . . . . .	2
G. E. Hawkins . . . . .	2
Corliss Manufacturing Co. . . . .	2
Edgewood Manufacturing Co. . . . .	2
G. W. Walker & Co. . . . .	2
Stewart & Allen . . . . .	3
Exeter Machine Co. . . . .	10
Ross & Hittinger . . . . .	4
S. L. Holt & Co. . . . .	5
G. W. Walker . . . . .	9
Walworth Manufacturing Co. . . . .	6
Putnam Machine Co. . . . .	6
Swampscott Machine Co. . . . .	6
McKay & Aldus . . . . .	7
George A. Miles . . . . .	12
Louis Osborne Manufacturing Co. . . . .	7
Campbell Bros. . . . .	9
Colt Fire Arms Co. . . . .	9
Cunningham Iron Works . . . . .	4
Robinson Boiler Works . . . . .	11
J. Lally . . . . .	12
Lally & Russell . . . . .	17
Hinckley Locomotive Works . . . . .	14
Allen & Endicott . . . . .	18
Pitkin Bros. . . . .	15
Harrison Boiler Works . . . . .	16
Walker & Pratt Manufacturing Co. . . . .	23
Ingalls & Kendrick . . . . .	32
Campbell & Whittier . . . . .	18
S. E. Chubbuck & Son . . . . .	27
Babcock & Wilcox . . . . .	19
Atlantic Works . . . . .	22
Cook, Rymes, & Co. . . . .	27
J. H. & F. Cunningham . . . . .	46
Kendall & Roberts . . . . .	86
Whittier Machine Co. . . . .	106
E. Hodge & Co. . . . .	90
Unknown . . . . .	83
Total . . . . .	825

*Date of Make.*

Year.	Boilers.	Year.	Boilers.
1855 . . .	1	1874 . . .	41
1856 . . .	1	1875 . . .	21
1861 . . .	1	1876 . . .	38
1863 . . .	1	1877 . . .	26
1864 . . .	1	1878 . . .	28
1865 . . .	6	1879 . . .	46
1866 . . .	8	1880 . . .	55
1867 . . .	7	1881 . . .	57
1868 . . .	12	1882 . . .	83
1869 . . .	13	1883 . . .	51
1870 . . .	23	1884 . . .	39
1871 . . .	24	1885 . . .	7
1872 . . .	33	Unknown . . .	161
1873 . . .	41		

*Location and Distribution by Wards.*

Ward.	No.	Ward.	No.
1 . . . .	46	15 . . . .	6
2 . . . .	78	16 . . . .	60
3 . . . .	24	17 . . . .	6
4 . . . .	34	18 . . . .	5
5 . . . .	29	19 . . . .	31
6 . . . .	80	20 . . . .	8
7 . . . .	67	21 . . . .	19
8 . . . .	12	22 . . . .	2
9 . . . .		23 . . . .	6
10 . . . .	141	24 . . . .	2
11 . . . .	48	25 . . . .	
12 . . . .	76		
13 . . . .	40		
14 . . . .	5		
			<hr/>
			825

It has already been demonstrated that both time and labor in making these reports has been judiciously expended ; and they have proved to be invaluable.

## DUTIES OF THE DEPARTMENT.

Under the provisions of the statutes relating to buildings in the City of Boston, and under the provisions of the City Ordinances relating to buildings, the department has supervision over the following matters : —

The erection of brick, stone, and iron buildings, under statute provisions, throughout the entire city limits.

- The erection of wooden or frame buildings of limited dimensions and range, outside of the building limits, under the provision of the city ordinance.
- Additions, alterations, and repairs on all classes of buildings, with especial reference to their compliance with the present requirements of the building law.
- The inspection of unsafe buildings and structures, with full power to require the securing or removal of the same, and in cases of immediate danger, where the security of the public is imperilled in life and limb, authority to enter upon, secure, or take down the same, as the exigencies of the public safety, in the opinion of the Inspector, may require.
- The examination of buildings damaged by fire or accident, with authority to enter upon the premises and investigate the origin of fires.
- The inspection of buildings liable to take fire from unsafe flues and heating apparatus.
- The supervision and the protection of the building limits, the district in which the erection of independent wooden buildings is prohibited by statute law, with certain limitations as to wharves, market buildings, and elevators for grain and coal.
- Special authority invested in the Inspector of Buildings to issue permits for wooden and frame sheds for special purposes, within the building limits of the city.
- The examination for approval of plans and specifications of all proposed buildings.
- The examination for the approval of plans of proposed tenement houses, public and family hotels, with especial reference to their compliance with special statute provisions, regulating area for light and ventilation, material of construction of water-closets, drainage, cesspools, height of habitable rooms, window openings, hall-ways, construction of stair-ways, fire-escapes, and the height of the buildings as regulated by the width of the street upon which they are proposed to be erected.
- The enforcement of statutory provisions requiring fire-escapes upon certain buildings in which operatives are employed in factories, mills, or manufactories, tenement-houses, and hotels, etc.
- Authority invested in the Inspector of Buildings, under the Act relating to the inspection and construction of buildings in the City of Boston, in buildings used for public purposes, to regulate the entrances, doorways, passage-ways; their width, construction, and number, and obstructions that may be placed therein; the arrangement

of the seatings, and the use of combustible materials, draperies, scenery, properties, etc.

The inspection of all hoistways and elevators in buildings, with reference to their construction and use in conformity with the requirements of the Public Statutes, authority being invested in the Inspector of Buildings to prohibit their use if unsafe or dangerous, or not conforming to the requirements of law, a notice of said action to be placarded on the door or entrance of cab or car.

Compliance with the requisitions of the Board of Health.

The setting of steam-engines and boilers. The building of furnaces for melting iron, glass, or other metals.

The building of ovens, kilns, etc. The setting of heating apparatus in all classes of buildings.

The examination of the grade of cellar bottoms of buildings built upon filled land; reporting violations of the same to the Board of Aldermen.

The storage of combustible material in buildings occupied in whole or in part as dwellings, situated within the building limits of the city.

Buildings authorized by the Board of Aldermen to be used for stables are licensed to be occupied for this purpose, under the direction of the Inspector of Buildings.

Authority invested in the Inspector of Buildings to regulate the number of watchmen, red lights, gongs, etc., and require any further provisions he may deem necessary for the protection of life in hotels, boarding and lodging houses.

Examination for approval of the construction of bay-windows and other projections over or into the highway, for which the Board of Aldermen may grant licenses.

The examination of buildings with reference to their being provided with ample and sufficient means of egress, and their compliance with statute requirements, upon petition for license to occupy the same as a place of public amusement.

Examination of private signs, lanterns, druggists' mortars, etc., located in the public highways, upon a petition to the Board of Aldermen to maintain the same, if secured satisfactory to the Inspector of Buildings.

Authority to apply to the Supreme Judicial Court for an injunction restraining the erection or alteration of a building which does not conform to the requirement of law and the construction of windows, steps, and porches, etc., projecting into or over any public highway, without a license from the Board of Aldermen.

The inspection of all steam-boilers, so that the facts and returns relative to them, required to be made, may be returned to the Tax Commissioners.

The projection of electric lights throughout the entire city.

The construction, management, and inspection of hoistways and elevators throughout the entire city.

The occupancy of streets for building purposes.

The regulation of plumbing.

Very respectfully,

I am your obedient servant,

JOHN S. DAMRELL,

*Inspector of Buildings.*

COMPARATIVE OPERATIONS OF THE DEPARTMENT FOR THE  
YEARS 1884 AND 1885.

	1884.	1885.
The number of brick, stone, and iron buildings for which permits have been issued during the year . . . . .	312	348
The number of wooden buildings for which permits have been issued during the year . . . . .	1,126	1,372
The number of sheds situated upon wharves within the building limits of the city, for which permits have been issued . . . . .	48	13
The number of buildings for which permits have been issued to have additions built to them, or to have alterations and repairs made upon them . . . . .	2,118	2,177
The number of steam boilers, engines, etc., for which permits have been issued to set . . . . .	194	368
The number of ovens, ranges, etc., for which permits have been issued to build . . . . .	75	59
The number of furnaces, forges, etc., for which permits have been issued to build . . . . .	33	24
The number of kilns, kettles, etc., for which permits have been issued to build . . . . .	4	2



The number of heating apparatus for which notices have been received with intention to put in . . .	310	354
The number of permits issued for the occupancy of streets for building purposes . . . . .	1,615	1,789
The number of electric lights for which permits have been issued to project . . . . .	67	51
The number of buildings for which permits have been issued to perform plumbing . . . . .	2,206	2,932
The number of examinations made on new buildings in process of erection . . . . .	8,520	8,329
The number of examinations made on buildings undergoing repairs, alterations, etc. . . . .	5,721	6,009
The number of special examinations made . . . . .	113	176
The number of examinations made on buildings with reference to their means of egress in case of fire or panic . . . . .	370	373
The number of examinations that have been made on hoistways and elevators with reference to their conforming to the provisions of the ordinances . . . . .	1,077	1,918
The number of examinations made with reference to the setting of steam boilers . . . . .	551	754
The number of examinations made with reference to the setting of heating apparatus . . . . .	360	312
The number of examinations made for sundry purposes . . . . .	25	20
The number of examinations made of buildings in process of plumbing . . . . .	5,625	5,796
The number of examinations made of signs, lanterns, transparencies, and druggists' mortars, located in public highways, upon a petition to the Board of Aldermen to maintain the same, if secured to the satisfaction of the Inspector of Buildings . . . . .	6	0

The number of examinations made of plans . . . . .	1,527	1,578
The number of examinations made as to combustible material being improperly stored in buildings . . .	1	0
The number of examinations made of electric lights projected from buildings, with regard to security of same . . . . .	82	68
The number of examinations made on buildings damaged by fire or accident, with reference to the cause of same . . . . .	358	385
The number of reports made of buildings, walls, etc., in an unsafe and dangerous condition . . . . .	260	328
The number of reports made of chimneys in an unsafe and dangerous condition . . . . .	277	328
The number of reports made of flues in a defective condition . . . . .	10	7
The number of reports made of heating apparatus in an unsafe condition . . . . .	14	3
The number of reports made on boilers, furnaces, etc., in an unsafe condition . . . . .	3	1
The number of reports made on buildings damaged by fire or accident . . . . .	746	935
The number of reports made for sundry purposes . . . . .	4	8
The number of reports made on violations of the building statutes . . . . .	350	225
The number of reports made on violations of the building ordinances . . . . .	207	250
The number of reports made on violation of the elevator ordinances . . . . .	1,303	1,262
The number of reports made on violation of the plumbing ordinance . . . . .	247	310
The number of final reports made . . . . .	2,804	3,963
The number of notices issued on the violation of building statutes . . . . .	187	76
The number of notices issued on the violation of the building ordinances, . . . . .	90	114
The number of notices issued on the violation of the elevator ordinance, . . . . .	793	614

The number of notices issued on the violation of the plumbing ordinance,	228	213
The number of notices issued on unsafe buildings, walls, etc. . . . .	159	172
The number of notices issued on dangerous chimneys . . . . .	154	193
The number of notices issued on insufficient egress and fire-escapes .	98	51
The number of notices issued on boilers, furnaces, etc., in an unsafe condition . . . . .	3	1
The number of notices issued on stables, with reference to license of same . . . . .	1	0
The number of miscellaneous notices issued . . . . .	230	240
The number of buildings, walls, etc., in an unsafe condition recorded .	145	177
The number of defective flues, dangerous chimneys, and unsafe heating apparatus recorded . . . . .	196	180
The number of violations of statutes (building) recorded . . . . .	1,643	288
The number of violations of the elevator ordinance recorded . . .		553
The number of violations of the plumbing ordinance recorded . .		351
The number of violations of the revised ordinances (building) recorded . . . . .		147
The number of brick buildings completed, and upon which final reports have been rendered . . . .	262	350
The number of wooden buildings completed, and upon which final reports have been rendered . . . .	1,199	1,468
The number of buildings in which plumbing has been completed, and final reports rendered . . . . .	1,312	2,432
The number of buildings upon which repairs, alterations, and additions have been completed during the year . . . . .	1,981	2,033
The number of steam boilers, engines, etc., built . . . . .	326	496
The number of heating apparatus set . . . . .	321	314

The number of fire-escapes completed during the year . . . . .	30	78
The number of electric lights completed during the year . . . . .	56	53
Estimated cost of completed brick buildings . . . . .	\$5,400,775	\$6,218,800
Estimated cost of completed wooden and frame buildings . . . . .	\$3,078,145	\$4,552,538
Completed plumbing performed . . . . .	\$385,957	\$647,517
Estimated cost of completed additions, alterations, and repairs . . . . .	\$1,983,287	\$2,560,212
Estimated cost of setting engines, etc., building furnaces, ovens, ranges, etc. . . . .	\$220,181	\$257,885
Estimated cost of setting heating apparatus . . . . .	\$46,988	\$43,916
Estimated cost of securing unsafe buildings, etc. . . . .	\$20,339	\$26,758
Estimated cost of securing dangerous chimneys . . . . .	\$2,520	\$2,596
Estimated cost of providing fire-escapes and additional means of egress . . . . .	\$3,525	\$10,491
Estimated cost of completed electric lights . . . . .	\$2,900	\$3,150
Estimated amount of damage to buildings by fire is . . . . .	\$235,722	\$250,227
Estimated cost of removing violations of building statutes . . . . .	\$6,125	\$1,780
Estimated cost of removing violations of building ordinances . . . . .	\$1,110	\$1,269
Estimated cost of removing violations of elevator ordinances . . . . .	\$26,384	\$11,780
Estimated cost of removing violations of plumbing ordinances . . . . .	\$786	\$1,380
The number of communications, notices, etc., received, referred, and acted upon . . . . .	806	644
From City Council . . . . .	154	240
“ Police Department . . . . .	61	49
“ Surveyor's Department . . . . .	26	22
“ Fire Department . . . . .	5	4
“ Board of Health . . . . .	191	168
“ General Communications . . . . .	369	161
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	806	644

NUMBER AND PURPOSES OF BRICK BUILDINGS FOR WHICH  
PERMITS WERE ISSUED DURING THE YEAR 1885.

Boiler-houses . . . . .	3
Brewery. . . . .	1
Carriage-house . . . . .	1
Charitable Institutions . . . . .	2
Coal-shed . . . . .	1
Dining-room . . . . .	1
Dormitory . . . . .	1
Dry-house . . . . .	1
Dwellings . . . . .	179
Dwellings and stores . . . . .	22
Engine-houses . . . . .	3
Family hotels. . . . .	34
Fountain covering . . . . .	1
Freight-house. . . . .	1
Hall and bowling alley . . . . .	1
Hall and office . . . . .	2
Hall, store, and stable . . . . .	1
Hotel . . . . .	1
Kitchen . . . . .	1
Manufacturing . . . . .	5
Mechanical . . . . .	7
Mechanical and storage . . . . .	1
Mercantile . . . . .	21
Offices . . . . .	2
Railroad station . . . . .	1
Restaurant and office . . . . .	1
School-houses . . . . .	3
Shed . . . . .	1
Shop and factory . . . . .	1
Stables . . . . .	7
Stable and storage . . . . .	1
Storage . . . . .	5
Stores . . . . .	9
Store and apartment . . . . .	3
Store and office . . . . .	1
Tenements . . . . .	17
Tenement and store . . . . .	3
Theatre . . . . .	1
Warehouse . . . . .	1

*Number of Brick Buildings in each Ward for which Permits were issued during the Year 1885.*

Ward	1, No. of Buildings,	Ward 15, No. of Buildings,	1
2,	" 4	16,	" 6
3,	"	17,	" 4
4,	" 2	18,	" 8
5,	" 3	19,	" 19
6,	" 14	20,	" 15
7,	" 4	21,	" 11
8,	" 1	22,	" 82
9,	" 4	23,	" 5
10,	" 6	24,	" 11
11,	" 110	25,	" 2
12,	" 23		
13,	" 5	Total	. . . 348
14,	" 8		

NUMBER AND PURPOSES OF WOODEN BUILDINGS FOR WHICH PERMITS WERE ISSUED DURING THE YEAR 1885.

Bakery . . . . .	1
Barge-house . . . . .	1
Barns . . . . .	2
Billiard-room . . . . .	1
Bleachery . . . . .	1
Boat-houses . . . . .	2
Boiler-house . . . . .	1
Carriage-houses . . . . .	10
Church . . . . .	1
Coal-shed . . . . .	1
Dry-houses . . . . .	4
Dwellings . . . . .	971
Dwelling and bakery . . . . .	2
Dwelling and carriage-house . . . . .	1
Dwelling and restaurant . . . . .	1
Dwellings and stores . . . . .	45
Flag-house . . . . .	1
Foundry . . . . .	1
Greenhouses . . . . .	8
Horse-shed . . . . .	1
Laundry . . . . .	1
Lockers . . . . .	2
Manufactories . . . . .	9
Mechanical . . . . .	35
Mercantile . . . . .	1



Offices . . . . .	1
Office and storage . . . . .	1
Photograph gallery . . . . .	1
Poultry-houses . . . . .	12
Railroad stations . . . . .	2
Restaurant . . . . .	1
Sanitariums . . . . .	2
School-house . . . . .	1
Sheds . . . . .	9
Stables . . . . .	114
Stable and carriage-house . . . . .	1
Storage . . . . .	86
Storage and hall . . . . .	1
Storage and wagon-shed . . . . .	1
Storage and washroom . . . . .	1
Stores . . . . .	17
Stores and offices . . . . .	1
Stores, offices, lodge-room . . . . .	1
Stores and stables . . . . .	1
Wagon-sheds . . . . .	8
Wood-sheds . . . . .	5
Workshop . . . . .	1
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	1,372

*Number of Wooden Buildings in each Ward for which  
Permits were issued during the Year 1885.*

Ward 1, No. of buildings, 110	Ward 15, No. of buildings, 45
2, " 25	16, " 2
3, " 10	17, " 22
4, " 37	18, " 157
5, " 12	19, " 119
6, " "	20, " 50
7, " "	21, " 203
8, " "	22, " 314
9, " "	23, " 136
10, " "	
11, " 1	
12, " "	
13, " 29	
14, " 100	
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#### SPECIAL PERMITS.

The provisions of Section 21 of Chapter 374 of the Acts of 1885 prohibit the erection of independent wooden build-

ings and wooden additions within the boundaries of the district known as the building limits of the City of Boston, with certain exceptions as to sheds on wharves, sheds used for market purposes, for builders' use at building sites, and elevators for coal and grain.

These limits are established by the City Council under statute authority; and by an ordinance approved December 14, 1885, were defined as follows:—

#### CHAPTER 48. OF THE REGULATION OF BUILDING.

SECTION 1. The limits within which all buildings hereafter erected shall be required to conform to the provisions of chapter three hundred and seventy-four of the statutes of the commonwealth of the year eighteen hundred and eighty-five, and of the acts in amendment thereof, and in addition thereto, are hereby established and defined as follows: All that portion of the city which is included within a line beginning at the intersection of the centre lines of Dover and Albany streets, and thence running east through the centre of said Dover street to the Harbor Commissioners' line; thence by the said Harbor Commissioners' line around the northerly portion of the "city proper" to a point on Charles river at the intersection of said line with the boundary line between Brookline and Boston; thence along said boundary line to the centre of Longwood avenue; thence through the centre of said avenue to the centre of Bumstead lane; thence through the centre of said lane to the centre of Ward street; thence through the centre of said Ward street to the centre of Parker street; thence through the centre of said Parker street to the centre of Ruggles street; thence through the centre of said Ruggles street to the centre of Washington street; thence through the centre of said Washington street to a point opposite the centre of Palmer street; thence through the centre of said Palmer street, and through the centre of Eustis street to the centre of Hampden street; and thence through the centre of said Hampden street and the centre of Albany street to the point of beginning; the said district being shown on a plan made by the city surveyor, dated June 28, 1881, and deposited in his office.

*The Number of Buildings for which Special Permits were issued during the Year 1885 is as follows:—*

Ward 6, Storage 2, freight-shed 2 . . . . .	4
10, Shed (at site of county Court-House) . . . . .	1
12, Storage 3, blacksmith shop 1, store 1, freight shed 1 . . . . .	6
19, Storage . . . . .	1
22, Market . . . . .	1
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	13

#### STEAM BOILERS, ENGINES, OVENS, FURNACES, ETC.

Under the provisions of Sections 79 to 85 inclusive, of Chapter 374 of the Acts of 1885, this department has super-

vision of the setting of all steam-boilers and heating apparatus, and the building of ovens, furnaces, etc.

The prosecution of this work does not, however, involve an inspection of the boilers, with a view to ascertain their condition and safety, and, though frequently called to act for that purpose, it has no legal authority.

*The Number of Boilers, Engines, Ovens, and Furnaces for which Permits were issued to set or build during the Year is as follows:—*

Boilers	.	.	.	.	.	.	.	259	
Boilers and engines	.	.	.	.	.	.	.	49	
Engines	.	.	.	.	.	.	.	60	
								—	368
Bakers' ovens	.	.	.	.	.	.	.	22	
Broilers	.	.	.	.	.	.	.	6	
Drying oven	.	.	.	.	.	.	.	1	
Enamelling oven	.	.	.	.	.	.	.	1	
Japanning oven	.	.	.	.	.	.	.	1	
Ovens	.	.	.	.	.	.	.	6	
Ranges	.	.	.	.	.	.	.	21	
Tire oven	.	.	.	.	.	.	.	1	
								—	59
Kettles	.	.	.	.	.	.	.	2	
								—	2
Blacksmiths' furnaces	.	.	.	.	.	.	.	5	
Forges	.	.	.	.	.	.	.	11	
Melting furnaces	.	.	.	.	.	.	.	5	
Smelting furnace	.	.	.	.	.	.	.	1	
Tailors' furnaces	.	.	.	.	.	.	.	2	
								—	24
Hot-air furnaces	.	.	.	.	.	.	.	354	
								—	354
									807

Number of Electric Lights for which permits were issued to project during the year 1885, and the Wards in which they are located:—

Ward 2	.	.	.	.	.	.	.	1
6	.	.	.	.	.	.	.	1
7	.	.	.	.	.	.	.	17



May . . . . .	\$17,099
June . . . . .	19,118
July . . . . .	23,745
August . . . . .	17,140
September . . . . .	21,460
October . . . . .	7,585
November . . . . .	10,912
December . . . . .	4,480
<b>Total . . . . .</b>	<b>\$250,227</b>

*The Causes Classified.*

Accident, boiler explosion . . . . .	1
Benzine, ignition of . . . . .	1
Box, caught fire from stove . . . . .	1
Calcium spark falling on curtain . . . . .	1
Candle dropped between flooring . . . . .	1
Candle in contact with curtain . . . . .	1
Careless use of matches . . . . .	15
Caught from boiler . . . . .	1
Caught from oil-stove . . . . .	1
Children playing with matches . . . . .	20
Clothing in contact with stove . . . . .	1
Clothing placed under boiler . . . . .	1
Curtain in contact with gas-jet . . . . .	3
Defective flue . . . . .	12
Defective grate . . . . .	3
Excelsior in contact with stove . . . . .	1
Fire from plumber's furnace . . . . .	1
Fireworks, explosion of . . . . .	1
Fireworks falling on roof . . . . .	4
Fireworks thrown against building . . . . .	11
Friction of machinery . . . . .	3
Gas escaping and ignited by lamp . . . . .	1
Gas, explosion of . . . . .	2
Gas-jet in contact with clothing . . . . .	1
Gas-jet in contact with fabrics . . . . .	1
Gas-jet in contact with flags . . . . .	1
Gas-jet in contact with post . . . . .	1
Gas-jet in contact with straw . . . . .	1
Gas-jet in contact with wood-work . . . . .	1
Gasoline stove, upsetting of . . . . .	1
Heated coals falling between flooring . . . . .	1
Heated coals falling on cornice roof . . . . .	4
Heated coals falling on floor . . . . .	3
Heated coals placed in dumb-waiter . . . . .	1

Heated coals placed in wooden box . . . .	1
Heated metal placed in wooden box . . . .	1
Heated scrap-iron thrown on floor . . . .	5
Heat from adjoining building . . . .	4
Hot-air pipes in contact with wood-work . . . .	1
Ignition of matches . . . .	1
Incendiary . . . .	70
Kerosene oil, careless use of . . . .	2
Kerosene-oil lamp, contact with wood-work . . . .	4
Kerosene-oil lamp, explosion of . . . .	35
Kerosene-oil lamp, upsetting of . . . .	8
Kerosene oil placed on register box . . . .	1
Kerosene-oil stove, upsetting of . . . .	2
Lard boiling over stove . . . .	2
Lighted cigar dropped on cotton . . . .	1
Lighted cigar dropped on floor . . . .	3
Lighted lamp in contact with bed . . . .	1
Lighted lamp in contact with clothing . . . .	4
Lighted lamp setting fire to ceiling . . . .	1
Lighted match dropped in box . . . .	1
Lighted match dropped on clothing . . . .	1
Lighted match dropped on kindling . . . .	1
Lighted match thrown in drawer . . . .	1
Lighted match thrown on floor . . . .	3
Lighted match thrown on paper waste . . . .	1
Lighted pipe in contact with clothing . . . .	1
Lightning . . . .	1
Naphtha, explosion of . . . .	1
Naphtha, lighted match thrown on . . . .	1
Overheated boiler . . . .	1
Overheated flue . . . .	1
Overheated furnace . . . .	3
Overheated grate . . . .	1
Overheated hot-air pipe . . . .	1
Overheated journal . . . .	3
Overheated range . . . .	1
Overheated register box . . . .	1
Overheated smoke-pipe . . . .	3
Overheated stoves . . . .	10
Rats among matches . . . .	22
Roofers' tar-kettle, caught from . . . .	2
Shavings in contact with boiler . . . .	3
Smoke from furnace . . . .	1
Soot in chimney taking fire . . . .	1
Sparks falling on charcoal . . . .	1
Sparks falling from chimney to roof . . . .	10
Sparks from forge . . . .	2



Sparks from locomotive . . . . .	4
Sparks from pipe falling on rubbish . . . . .	1
Sparks from pipe falling on rug . . . . .	1
Spontaneous combustion . . . . .	34
Steam-table explosion . . . . .	1
Stove-pipe in contact with wood-work . . . . .	2
Thawing frozen water-pipes . . . . .	7
Turpentine, explosion of . . . . .	1
Unknown . . . . .	4
Upsetting a stove . . . . .	1

## STREET PERMITS.

The number of street permits issued during the year 1885 : —

January . . . . .	48
February . . . . .	35
March . . . . .	127
April . . . . .	215
May . . . . .	204
June . . . . .	205
July . . . . .	208
August . . . . .	161
September . . . . .	162
October . . . . .	199
November . . . . .	124
December . . . . .	101
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	1,789

The number cancelled . . . . .	1,436
The number revoked . . . . .	34
Leaving 319 still in force	











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